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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,485	10/27/2006	Uli Joos	TM007	7256

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EXAMINER	
THAO, CHHEAN K	

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/554,485	JOOS ET AL.	
	Examiner	Art Unit	
	CHHEAN THAO	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 are cancelled; 9-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 are cancelled; 9-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 October 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/25/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detail Action

1. Claims 1-8 are cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 9 and 12 are rejected under 35 U.SC. 103(a) as being unpatentable over Masahiro (EP 0 722 094 A1) in view of Miller (US 6384696 B1)

Regarding claim 9, Masahiro discloses a method for operating a transmitting device of an access system with a plurality of long wave antennas, the method comprising: jointly triggering the long wave antennas by a central power amplifier (**The signals from the data processing circuit 2 modulatea carrier wave in the modulating circuit 3, and the modulated wave is amplified in the constant-current driver circuit 4 and then transmitted to the transponder through the antenna coil 5; therefore triggering antenna (i.e., transmit through the antenna) by power amplifier (i.e., constant-current driver circuit 4)**; **Masahiro, column 4 lines 1-5**); and regulating a transmitter current (**the interrogator provides the antenna coupling coefficient detecting circuit, gain control circuit 21 as the output control means; therefore, regulating transmitter current; Masahiro, column 4 lines 10-18, also lines 48 (i.e., antenna drive current)**.

Although Masahiro discloses antenna, Masahiro fails to specifically teach, individually activating the long wave antennas by a multiplexer device.

However, the preceding limitation is known in the art of communication. The second reference, Miller teaches activating the long wave antennas by a multiplexer device **(multiplex circuitry that includes a first connection terminal for connection to a first antenna; therefore, multiplexer device activates antenna; Miller, column 4 lines 54-63)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the technique of Miller within the system of Masahiro in order to minimize the number of antennas and the tuning requirements of a mobile antenna while maximizing and distributing the number of frequencies that can be received from the antenna through a multiplexer.

Regarding claim 12, Masahiro discloses a method for operating a transmitting device of an access system, comprising: a plurality of long wave antennas, the method jointly triggering the long wave antennas by a central power amplifier **(The signals from the data processing circuit 2 modulatea carrier wave in the modulating circuit 3, and the modulated wave is amplified in the constant-current driver circuit 4 and then transmitted to the transponder through the antenna coil 5; therefore triggering antenna (i.e., transmit through the antenna) by power amplifier (i.e., constant-current driver circuit 4); Masahiro, column 4 lines 1-5)**; a joint amplifier device having an output, wherein the long wave antennas are jointly connected*;* **(The signals from the data processing circuit 2 modulatea carrier wave in the modulating circuit 3, and the modulated wave is amplified in the constant-current driver circuit 4 and then transmitted to the transponder through the antenna coil 5; therefore an amplifier is connected to antenna; Masahiro, column 4 lines 1-5)**; and a control unit (10) for regulating a transmitter current **(the interrogator provides the antenna coupling coefficient detecting**

circuit, gain control circuit 21 as the output control means; therefore, regulating transmitter current; Masahiro, column 4 lines 10-18, also lines 48 (i.e., antenna drive current).

Although Masahiro discloses antenna, Masahiro fails to specifically teach, a multiplexer device for activating at least one long wave antenna.

However, the preceding limitation is known in the art of communication. The second reference, Miller teaches a multiplexer device for activating at least one long wave antenna **(multiplex circuitry that includes a first connection terminal for connection to a first antenna; therefore, multiplexer device activates antenna; Miller, column 4 lines 54-63)**. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the technique of Miller within the system of Masahiro in order to minimize the number of antennas and the tuning requirements of a mobile antenna while maximizing and distributing the number of frequencies that can be received from the antenna through a multiplexer.

4. Claims 10-11, 13-16 are rejected under 35 U.SC. 103(a) as being unpatentable over Masahiro (EP 0 722 094 A1) in view of Miller (US 6384696 B1) further in view of Fleek (US 5867533 A)

Regarding claim 10, the combination of Masahiro and Miller disclose a method according to claim 9 further comprising: detecting an actual value of the transmitter current is detected and if a desired value is exceeded, **(when a transponder (i.e., transmit device) whose receiving efficiency has been set higher is held very close to the interrogator for example, the transponder receives an excessive signal or power to cause damage of the circuit; thus, a protective circuit sets the upper limit of a receiving level, or a level shift circuit or a level**

shift circuit; ASK (amplitude shift keying) modulation system; therefore, detecting transmitter current; Masahiro, column 1 lines 57-58 and column 2 lines 1-8).

Although the constant current driver circuit 4 disclose by the combination of Masahiro and Miller can be used to produce square pulse, Masahiro and Miller fail to specifically teach the the transmitter current is approximated to the desired value by pulse-width modulation of an input signal of the central power amplifier.

However, the preceding limitation is known in the art of communication. The third reference, Fleek teaches the transmitter current is approximated to the desired value by pulse-width modulation of an input signal of the central power amplifier **(the edge detecting circuit includes a limit amplifier that generates a square wave pulse signal having rising and falling edges and that corresponds to the intermediate frequency signal; therefore, square wave output voltage; Fleek, column 3 lines 45-50).** Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the technique of Fleek in view of Miller within the system of Masahiro in order to detect the rising and falling edges that corresponds to the intermediate frequency signal during a modulation process.

Regarding claim 11, the combination of Masahiro and Miller disclose a method according to claim 9, wherein the power amplifier is utilized to triggering the long wave antennas (**the interrogator modulates a carrier wave generated in an OSC 1, and the modulated wave is amplified in a constant current driver circuit 4 and then transmitted to the transponder through an antenna coil 5; therefore, triggers the antenna; Masahiro, column 1 lines 24-30**);

Although the constant current driver circuit 4 disclose by the combination of Masahiro and Miller can be used to produce square pulse, Masahiro and Miller fail to specifically teach the power amplifier is utilized to generate (2) a square wave or trapezoidal output voltage.

However, the preceding limitation is known in the art of communication. The third reference, Fleek teaches power amplifier is utilized to generate (2) a square wave or trapezoidal output voltage **(the edge detecting circuit includes a limit amplifier that generates a square wave pulse signal having rising and falling edges and that corresponds to the intermediate frequency signal; therefore, square wave output voltage; Fleek, column 3 lines 45-50).** Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the technique of Fleek in view of Miller within the system of Masahiro in order to detect the rising and falling edges that corresponds to the intermediate frequency signal during a modulation process.

Regarding claim 13, the combination of Masahiro and Miller disclose a transmitting device according to claim 12 further comprising: a device for detecting an actual value of the transmitter current **(when a transponder (i.e., transmit device) whose receiving efficiency has been set higher is held very close to the interrogator for example, the transponder receives an excessive signal or power to cause damage of the circuit; thus, a protective circuit sets the upper limit of a receiving level, or a level shift circuit or a level shift circuit; ASK (amplitude shift keying) modulation system; therefore, detecting transmitter current; Masahiro, column 1 lines 57-58 and column 2 lines 1-8)**;

Although the constant current driver circuit 4 disclose by the combination of Masahiro and Miller can be used to produce square pulse, Masahiro and Miller fail to specifically teach and a control unit for pulse-width modulation of an input signal of the amplifier device, wherein

the control unit initiates the transmitter current to approximate a desired value, if the desired value is exceeded.

However, the preceding limitation is known in the art of communication. The third reference, Fleek teaches a control unit for pulse-width modulation of an input signal of the amplifier device, wherein the control unit initiates the transmitter current to approximate a desired value, if the desired value is exceeded **(the edge detecting circuit includes a limit amplifier that generates a square wave pulse signal having rising and falling edges and that corresponds to the intermediate frequency signal; therefore, square wave output voltage; Fleek, column 3 lines 45-50).** Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the technique of Fleek in view of Miller within the system of Masahiro in order to detect the rising and falling edges that corresponds to the intermediate frequency signal during a modulation process.

Regarding claim 14, the combination of Masahiro, Miller and Fleek disclose a transmitting device according to claim 13 further comprising: the control unit (10) is utilized to limit the transmitter current connected upstream to the joint amplifier device on the input side and downstream to the multiplexer unit **(multiplex circuitry that includes a first connection terminal for connection to a first antenna; therefore, multiplexer device activates antenna; Miller, column 4 lines 54-63; multiplexer in accordance with the invention can incorporate one or more of the disclosed circuits in various combinations; Miller,column 9 lines 46-48).**

Regarding claim 15, the combination of Masahiro, Miller and Fleek disclose a transmitting device according to one of claim 14 further comprising: a control device (14), connected on the output side to a control input of the joint amplifier device, wherein the control device comprises a first input for a clock signal and second input for a control signal **(apparatus**

includes an intermediate frequency generator, an edge detecting circuit, a first counter circuit, a comparison circuit, a second counter circuit and a media access control device. The intermediate frequency generator receives a phase shift keyed modulated signal and generates an intermediate frequency signal having rising and falling edges and a nominal center frequency; therefore, clock signal(i.e., counter circuit) and control device; Fleek, column 2 lines 66-67 and column 3 lines 1-15).

Regarding claim 16, the combination of Masahiro, Miller and Fleek disclose a transmitting device according to claim 15, in which the control device (14) comprises a logical combination element (16) with a first input for the clock signal and with a second input connected to a comparator (12) is connected on the output side via a sequential circuit (18), wherein the sequential circuit (18) is provided as a controlled latch-flip flop for pulse-width modulation of a control input signal (P.sub.in) of the joint amplifier device **(counter circuit is responsive to the edge detecting circuit by generating a plurality of counts, such that each count is the number of cycles of a reference frequency signal that occur between two consecutive rising edges; comparison circuit is responsive to the first counter circuit by comparing a first count; limit amplifier that generates a square wave pulse signal; therefore, comparator circuit, clock signal and pulse-width modulation; Fleek, column 3 lines 11-65).**

Conclusion

5. The prior arts made of record and not relied upon are considered pertinent to applicant's

disclosure. Lundquist (US 3611365 A), Lee (US 4989261 A), Klughart (US 5025486 A), and Dias (US 4984291 A) also disclosed operating a transmitting device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHHEAN THAO whose telephone number is (571)270-7497. The examiner can normally be reached on Monday-Friday 9:00 am-5:30pm; off every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on 571-272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHHEAN THAO/

Examiner, Art Unit 2617

/NICK CORSARO/

Supervisory Patent Examiner, Art Unit 2617